



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/484,835	01/18/2000	Jin Huai	1314.3009	1172
26541	7590	01/29/2004	EXAMINER	
RITTER, LANG & KAPLAN 12930 SARATOGA AE. SUITE D1 SARATOGA, CA 95070			PARTON, KEVIN S	
			ART UNIT	PAPER NUMBER

2153

DATE MAILED: 01/29/2004

20

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/484,835

Applicant(s)

HUAI ET AL.

Examiner

Kevin Parton

Art Unit

2153

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 17, 20-24, 27-31 and 34-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17, 20-24, 27-31, and 34-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 17, 24, and 31 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 17, 24, and 31 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the selection of a protectable shortest path by examining the parent node of a destination node, does not reasonably provide enablement for adding this single selected path to a set of paths all of which extend through the original destination node. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. More specifically, claims 17, 24, and 31 teach the following steps:

- a. Identifying a plurality of shortest paths having equal costs from a first node to a second node.
- b. Selecting one of the shortest paths that has an edge disjoint alternate path by examining the parent node and identifying the shortest path for which the parent node has not been marked. The parent node is the last node before the second node.

Art Unit: 2153

- c. Marking the second node to indicate that it has multiple shortest paths from the first node to the second node.
- d. Adding one or more new paths to a set of paths in the network, the new paths extending through the second node to one or more adjacent nodes.

The claim not only is not supported by the specification, it also provides for a system that cannot be supported. Specifically, the claim states that one shortest path between a first and second node is "selected." This is selected because it has a parent node that has not been marked. The second node is then marked and paths are added to "a set" of paths all of which extend through the second node that has been marked. If this is the case, all of the paths added to the "set" have parent nodes (the second node) that are marked. None of these paths can be used as edge disjoint paths and are thus not protectable.

The specification in figures 7 and 8 and on pages 11-15 teaches a different set of steps from the claims, this set of steps is outlined below. The purpose of this illustrated example of the invention is to select a path between point A (the first node) and point V (the second node). The method takes the following steps:

- a. Starting at point A, adding each adjacent node to the set of analyzed nodes and analyzing path weights.
- b. If two alternate paths lead to a single node, marking that node.
- c. Continuing adding analyzed nodes and new paths until all the shortest paths between node A and node V have been found.
- d. Examining the parent nodes of node V (nodes C and F) for marking.
- e. Since node C is marked, selecting the path A-D-F-V.

Art Unit: 2153

The method stops at this point when a protectable path is selected. Although the node V would be marked, the path A-D-F-V is not added to a set of paths extending beyond V and on to adjacent nodes. The specification only teaches selecting the path between the first and second node.

It is important to note that at one point in the analysis of the network, the node C is shown to have multiple edge disjoint shortest paths between itself and node A. In this case, node C is marked and the analysis continues to consider paths that extend beyond node C (as well as other paths such as A-D-F). This is not what is pointed out in the claims, however. The claims require that a single path be "selected" and then additional paths added to the set. A path between node A and node C is never selected, it is merely analyzed and the node is marked. No path is selected until all the shortest paths between nodes A and V have been determined and the parent nodes (C and F) have been examined. The finding of multiple shortest paths between A and C is merely a by-product of the analysis that is being used to find the path between A and F and no path is "selected" as claimed.

4. Claims 20-23, 27-30, and 34-37 are rejected under 35 U.S.C. 112, second paragraph because they are dependent on the claims 17, 24, and 31 and do not serve to point out the invention as disclosed in the specification.

***Allowable Subject Matter***

5. Claims 17, 20-24, 27-31, and 34-37 are allowable over the prior art as written.

Art Unit: 2153

*Conclusion*

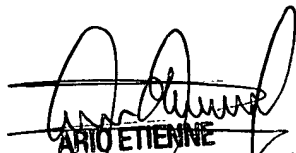
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Parton whose telephone number is (703)306-0543. The examiner can normally be reached on M-F 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (703)305-4792. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Kevin Parton  
Examiner  
Art Unit 2153

ksp

  
ARIO ETIENNE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100